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Descriptions of New Species of **DIURNAL LEPIDOPTERA** found within the
United States.

BY W. H. EDWARDS.

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ANTHOCARIS HYANTIS, n. sp.

Male.—Expands 1.5 inch. Upper side sordid white, the bases of wings largely powdered with grey; costal edge of primaries specked with grey-brown; on arc a narrow, slightly sinuous grey-brown bar reaching costal edge; apex and upper half of hind margin bordered by a double row of grey-brown spots, the interstices being white; secondaries immaculate. Under side white; primaries have the discal bar repeated faintly; apex slightly washed with yellow-green and somewhat colored by scattered brown scales.

Secondaries covered with confluent patches of yellow green, powdered with grey.

Body covered with grey hairs; beneath, abdomen white, thorax greenish white; palpi same; antennæ and club whitish.

Female.—Expands 1.8 inch. Upper side similar to male; the anterior edge to subcostal nervure crossed by brown streaks instead of being specked; discal bar much widened at each extremity and terminating at subcostal; the apical and all the marginal nervules bordered with black near the extremities, and at apex preceded by an oblique stripe from costa to middle of margin leaving a large white rounded patch on costa. Secondaries delicate, showing distinctly the markings below.

On under side primaries have a reniform discal spot enclosing a white streak on the arc; a straight stripe, yellow green powdered

with grey, starting from costa near apex terminates a little within the middle of hind margin; two similar abbreviated stripes precede this on costa; the color of patches on secondaries more intense.

Taken at Mendocino, Cal., by R. H. Stretch, Esq., and in the collection of Mr. Henry Edwards.

PHYCIODES ORSEIS, n. sp.

Male.—Expands 1.6 inch. Upper side fuscous spotted with fulvous and rusty white; primaries have a marginal series of lunules, obsolete except the middle one; a submarginal row of points, followed by a macular rusty white band; on arc a fulvous patch, a broad bar in cell; three or four indistinct fulvous patches in cell near base and a whitish spot below. Secondaries have a complete marginal series of whitish lunules each resting on a faint black spot; a submarginal row of fulvous spots nearly replaced by black, showing only fulvous lunules on inner edges; median band fulvous; a fulvous curved bar on arc and spot in cell; fringes fuscous and white.

Under side pale ochraceous, darkest at base of primaries; at inner angle a blackish streak and a small brown patch on middle of inner margin; hind margins of both wings edged by a crenated fulvous line, duplex on middle of primaries, and on whole of secondaries, and in upper median interspace of these last enclosing a large pale lunule; primaries mottled with shades of fulvous; secondaries from base to middle of disk reticulated with fulvous lines, limited without by a wavy line; beyond this a cloudy stripe and a row of brown points.

Body above fuscous, below pale ochraceous; legs ochraceous; palpi same, fuscous above and with fuscous hairs in front; antennæ fuscous; club black tipped with fulvous.

Female.—Expands 1.9 inch. Upper side similar to male; under side of primaries fulvous mottled apically and on inner margin with yellowish; the marginal lines complete, duplex, enclosing yellow lunules; on secondaries the pale spot on margin is white or silvery; these wings yellowish clouded with brown, and the reticulated lines at base brown.

From Mt. St. Helena, Napa Co. California, taken by Mr. Henry Edwards. The largest of the Pacific species.

PHYCIODES CANACE, n. sp.

Male.—Expands 1.3 inch. Upper side fuscous marked and spotted with fulvous, as in *Montana*, Behr; the third band from hind margin of primaries pale colored, rather yellowish; under side of primaries

pale ochraceous at base, largely ochraceous at apex and on costal margin; disk fulvous; a black subapical bar on costal margin and a second reaching from costa to median nervure, beyond extremity of cell; a large blackish patch at inner angle projecting anteriorly a streak which curves to middle of hind margin, partially replaced by fulvous; a subovate black spot on inner margin.

Secondaries wholly pale ochraceous, immaculate except a submarginal row of brown dots distinct from abdominal margin to middle of disk, beyond obsolete.

From Southern California. Taken by Dr. Smart, and in the collection of the Agricultural Department.

This species on the under side much resembles *Batesii*, Reakirt, but wants the reticulations which ornament that species; the form of all the black markings on under side of primaries is also different. On the upper side the surface presents much less black. It is nearest to *Montana*, of the Pacific species.

THECLA CYGNUS, n. sp.

Size and form of *Acadica*.

Female.—Expands 1.2 inch. Upper side brown; primaries have a dark costal and marginal border; next preceding this last the limb is suffused with fulvous which fades on the disk but leaves a tint nearly to base. Secondaries have a long fulvous patch near anal angle extending to middle of hind margin, showing a large bright lunule in submedian interspace; the anterior tail short, a mere point, the posterior long, black tipped with white and edged with same color on the posterior side from base nearly to the white tip; fringes next anal angle grey, otherwise luteous.

Under side uniform pure brown; primaries have a nearly obsolete submarginal series of narrow fulvous lunules edged anteriorly by black streaks; a median row of small black spots or points; a brown bar on arc. Secondaries bordered by deep orange lunules, the second from anal angle nearly replaced by brown and densely covered by grey scales with a narrow fulvous edge anteriorly; the third large with a fuscous edge next margin, the fourth small, nearly replaced by fuscous, the fifth and others to outer angle represented by a few fulvous scales only; each of these surmounted by a black streak followed by a white streak; the median row of spots large, rounded, edged with whitish; a brown bar edged by darker lines on the arc.

Body above brown, beneath grey; legs grey; palpi white, black in

front and at tip; antennæ black annulated with white; club black, tip fulvous.

Taken in Nevada by Mr. Henry Edwards.

THECLA CASTALIS, n. sp.

Size and form of *Smilacis*.

Male.—Expands 1.1 inch. Upper side yellow brown; both wings have broad fuscous costal and hind margins; stigma small, oval; secondaries have the yellow disk slightly obscured by fuscous; the outer tail very short, the other long, fuscous tipped with white. Under side of primaries green at base and on apical half of hind margin; rest of wing castaneous; the marginal edge bordered by an interrupted white line; on the disk, an abbreviated white band, commencing on costa, broken into spots by the nervules.

Secondaries green; hind margin edged by a continuous white line, on which, near anal angle, rest three blue grey lunules, the middle one surmounted by a black dot, and all three by black lunules preceded by white points; across the disk a complete sinuous row of white spots, edged anteriorly by castaneous; a spot in cell and another above, both edged posteriorly by castaneous.

Female.—Expands 1.2 inch. Similar to male, except that the color of upper side is castaneous instead of yellow; on under side the green shade is faint, obscured by brown.

From Mr. G. W. Belfrage. Taken near Waco, Texas.

LYCÆNA HELIOS, n. sp.

Male.—Expands 1.1 inch. Upper side dull pruinose blue; hind margin of primaries fuscous, of secondaries edged by a black line; fringes long, soiled white, at apex of primaries partially replaced by fuscous.

Under side grey brown, bluish at base of secondaries; both wings have a submarginal series of small black lunules, and a median row of rounded black spots; those of primaries large, the first on costa nearly or quite obsolete; those of secondaries minute on a white ground, but usually about half the size of the smaller on primaries and uniform; on arc of primaries a large oval black spot, of secondaries a faint streak; a point in cell and another on costal margin; all the lunules and spots faintly edged with white.

Body above blue, abdomen beneath soiled white; thorax grey white; palpi same with long black hairs on front; antennæ annulated black and white; club black, tip fulvous.

Female.—Same size. Dull blue, obscured by pale fuscous; on arc of primaries a faint streak; hind margin of secondaries bordered by indistinct brown oval spots.

Under side clear drab; all the lunules and spots distinct and not edged with white.

Three ♂, one ♀, from California. H. Edwards.

LYCÆNA VIACA, n. sp.

Male.—Expands 1.4 inch. Upper side pruinose blue with a metallic lustre, somewhat obscured by fuscous on secondaries; hind margin of primaries largely bordered by fuscous, of secondaries narrowly; fringes of primaries white, black at ends of nervules, of secondaries white. Under side grey brown mottled with calcareous white; primaries have a submarginal series of brown lunules, not distinct apically; a median row of large round black spots, the first four from costa forming an arch, the fifth much anterior to fourth and widely separated from it; the sixth duplex; all edged with white; on the arc a subreniform black spot and one nearly similar in cell.

Secondaries have a submarginal series of brown lunules; a median sinuous row of round black spots, less conspicuous than those of primaries, except the first, fourth and last; the second, fifth, sixth and seventh half the size of the first; on arc an indistinct bent streak; a small black spot in cell, a large one on costa and a third below cell; fringes beneath on both wings cut by brown.

Body above blue, beneath, thorax blue grey; legs back and white; palpi white, black at tip and on upper side; antennæ annulated black and white; club black, tip fulvous.

From collection of Mr. Henry Edwards. Taken in the Sierra Nevada, Cal.

LYCÆNA ARDEA, n. sp.

Male.—Expands 0.95 inch. Upper side violet blue, grey blue when seen obliquely; hind margin of primaries very narrowly edged by fuscous; of secondaries by a black line; fringes long, white.

Under side fawn color, secondaries tinted with blue at base; primaries have a large black reniform discal spot, edged with white; an imperfect transverse median row of four black dots, surrounded by white, those at either extremity obsolete; faint traces of a submarginal series of brown lunules. Secondaries have traces of a similar series, still less distinct; no median spots; a large white patch on arc.

Body above concolored; beneath white; legs white; palpi white tipped with grey; antennæ annulated white and black; club black, tip pale ferruginous.

From Nevada, vicinity of Virginia City. Taken by Mr. Henry Edwards.

LYCÆNA GLAUCON, n. sp.

Male.—Expands 0.95 inch. Upper side pruinose blue, color of *Comyntas*; primaries have a blackish border to hind margin of equal width throughout and even edged within; secondaries have a rather wider border, lunate within and less distinctly defined, the two lunations before anal angle surmounted with fulvous; fringes short, white, cut with black at ends of nervules on primaries. Under side grey brown, tinted with blue at base of secondaries; primaries have a marginal series of brown spots or imperfect lunules, preceded by a submarginal series of larger, distinct, blackish spots, the two next inner angle suffused with fulvous; a median row of large blackish spots, the uppermost one much advanced on costa; a subreniform spot on arc and a smaller spot in cell, both blackish.

Secondaries have a distinct marginal row of round brown spots, preceded by a second similar row, but which are partly lost in a bright orange stripe that occupies the space between the two rows from anal angle nearly across the wing; the median row similar to that of primaries; a bent bar on arc; two rounded blackish spots a little posterior to this bar and between it and costa; a third spot on costa nearer base and a fourth below cell.

Body above black, covered with blue hairs, beneath grey; palpi white with long black hairs at tip; antennæ annulated black and white; club black, tipped with white.

Female.—Same size. Upper side brown; hind margin of secondaries bordered by rounded indistinct spots of darker brown, which for two thirds the distance from anal angle are partly enclosed and surmounted by a fulvous bars. Under side as on male.

Allied to *Battoides*, Behr. From 2♂, 1♀, taken by Mr. Henry Edwards, in Nevada.

LYCÆNA GYAS, n. sp.

Male.—Expands .95 inch. Upper side pale violet blue, immaculate except a fuscous point near anal angle. Under side pale brown with a wash of whitish; primaries have a faint discal bar, and a straight row

of spots across the wing, the second and fourth back of the line; all edged with white; on margin traces of lunules.

Secondaries have a similar discal bar and a median row of spots; a small round fuscous spot in cell, two others on costa, one near middle the other near base; a faint row of spots on hind margin, of which the two next anal angle are distinct, blackish.

From Arizona, taken by Dr. Palmer, and in the collection of the Agricultural Department.

LYCÆNA FEA, n. sp.

Male.—Expands .6 to .7 inch. Upper side brown, sometimes red-brown, bluish at base of both wings, and slightly fuscous along hind margins; secondaries bordered by a series of round fuscous spots; fringes long, pure white, except at inner angle of primaries and against the lower median interspace, where they are fuscous.

Under side of primaries dark grey at base without markings, fulvous on disk crossed by interrupted white streaks; the margin grey, presenting a series of obsolete lunules above each of which is a white border forming a broken line like those on disk. Secondaries dark grey at base, paler grey over part of disk, then brown, followed by a broad white sub-marginal space; the base marked by three fuscous points placed transversely, and the brown disk crossed by white streaks as on primaries; hind margin bordered by a row of black spots, of which the first, next anal angle, is duplex and covered with metallic green scales; the next four large, dead black and only metallic at their bases; the next two wholly covered with metallic scales.

Female.—Same size, paler colored above, marked as the male.

From several specimens sent me by Mr. G. W. Belfrage, and taken near Waco, Texas.

This minute species is allied to *Exilis*, Bois., of California.

CHRYSOPHANUS IANTHE, n. sp.

Male.—Expands 1.3 inch. Upper side pale glossy fulvous; both wings have straight black discal bars; hind margin of secondaries bordered by separated lunular brown spots preceded and enclosed anteriorly by a coppery band; otherwise immaculate excepting that the spots of lower surface are partially seen through the wings.

Under side pale buff much powdered at base with grey; primaries have a marginal series of rounded brown spots, obsolete apically, suffused near inner angle with fulvous; a median tortuous row of brown

spots or points; a bar on arc, a large round spot in cell besides a point nearer base, and a large round spot below cell. Secondaries have a marginal series of orange crenations, obsolete toward outer angle; a median row of black dots; an obsolete discal streak, a point in cell and another below.

Body above fuscous, below buff; thorax white; palpi white, grey in front; antennæ fuscous; club black, tip ferruginous.

Female.—Expands 1.4 inch. Upper side bright glossy fulvous; primaries have a broad fuscous hind margin; a median row of ill-defined fuscous spots; a subovate fuscous spot on arc, a round spot in cell and another below. Secondaries have a similar margin but cut by fulvous crenations from anal angle to middle; a median row as on primaries, a bar on arc and a round spot in cell.

Under side as in male.

From Nevada, taken by Mr. Henry Edwards. This species takes the place of *Hellroides*, its nearest ally. The markings of the females and the color of upper side of these species are much alike but the color of under side is different, and the males are unlike in color of both surfaces.

CHARIS NEMESIS, n. sp.

Male.—Expands 1 inch. Upper side pale brown, the basal half a shade darker and limited on middle of both wings by a wavy outline.

Under side pale fulvous; both wings crossed by two marginal lines of plumbaginous point; a third line of black, non-metallic, points crosses the disks and a fourth is basal.

From Arizona. Taken by Dr. Palmer, and in the collection of the Agricultural Department.

EUPTYCHIA RUBRICATA, n. sp.

Male.—Expands 1.4 inch. Upper side light brown; a large reddish patch on disk of primaries, occupying the outer and lower corner of cell and nearly the whole of the median interspaces to marginal lines; a faint tinge of same color on disk of secondaries; hind margins edged by a dark brown line, preceded by a second and a third at equal distances, the last slightly crenated; at apex of primaries a subovate black spot in which are two pearly foci and around which is an ochraceous ring; a similar spot near anal angle; fringes concolored. Under side grey brown, the red patch diffused and brighter colored; besides the three marginal lines, which are distinct,

are two other lines crossing both wings; the exterior one on primaries ferruginous, commencing on costa a little anterior to the apical spot and turning irregularly to the crenated line next inner angle; the second of these two lines only distinct in cell; on secondaries the exterior line terminates at and joins the extremity of the crenated line; the interior is wavy and distinct throughout; primaries have the apical spot as above, the ring yellowish and partly enclosing a pearly spot in the upper discoidal interspace; a similar pearly spot just below.

Secondaries in addition to the anal spot have a similar one near outer angle and two small pearly spots in yellow rings between these, besides a third on costal edge.

Body above brown; beneath, thorax grey; legs grey; palpi whitish fuscous at tip; antennæ fuscous and white, club red.

Female.—Expands 1.6 to 1.8 inch. Similar to male.

From Mr. G. W. Belfrage. Taken near Waco, Texas.

CENONYMPHA AMPELOS, n. sp.

Male.—Expands 1.3 inch. Upper side bright, glossy ochraceous; immaculate; fringes concolored.

Under side nearly same shade, paler and changing to buff at apex of primaries; on secondaries slightly paler at outer angle and elsewhere much powdered with brown atoms; a pale straight ray from costal edge of primaries nearly crosses the wing; secondaries have a similar ray, tortuous, interrupted in the upper median interspaces, not quite reaching abdominal margin; both wings immaculate.

Body fuscous covered with ochraceous hairs; beneath yellowish and grey; palpi grey; antennæ annulated black and white; club black, tip ferruginous.

Female.—Same size, slightly paler; otherwise like male.

From 1 ♂, 1 ♀. Oregon. Allied to *Inornata*, Edw.

SYRICHTUS OCEANUS, n. sp.

Female.—Expands 1.6 inch. Upper side soiled white, pale brown at bases of wings; apex of primaries largely covered with same shade extending to cell, suddenly narrowing at discoidal nervule and continuing with slightly diminishing width to inner margin; enclosed on this border is a series of whitish lunules and a subapical oblique streak. Secondaries clouded with brown along abdominal margin and on disk;

hind margin narrowly edged with brown, enclosing a series of whitish serrations on the margin.

Under side of primaries white discolored with brown on costal and hind margins; a subapical brown patch on costa preceded by a short oblique brown bar; secondaries whitish brown, largely brown at base and along basal part of costal margin with a connected patch on disk; hind margin broadly edged by a border a shade darker than the ground color and straight edged within from outer to anal angle.

From Arizona. Taken by Dr. Palmer, and in the collection of the Agricultural Department.

STEREOPTES SKADA, n. sp.

Allied to *Mandan*, Edw.

Male.—Expands 1.2 inch. Upper side dark velvety brown spotted with deep ochraceous; primaries have a submarginal row of indistinct points; a straight median row of large spots, of which the most conspicuous is on the costa divided by the black nervules, and the two next succeeding are small, back of the line and near the outer row; the fourth spot is sagittate, the fifth subrectangular, sixth minute and seventh a streak on inner margin; in cell a large subrectangular spot connected at its lower inner angle with a small triangle. Secondaries have the submarginal row of points more distinct; a large rounded spot on middle of disk and a small oval between this and abdominal margin; a third small spot in cell near base; fringes yellow brown. Under side of primaries ochraceous from base to middle of wing and connected by the ochraceous median nervule with the second row of spots, which are much enlarged; the marginal spots distinct; the space between these and the second row as also the hiatus in this last black; a black spot in cell, one in first median interspace beyond the second row and another of larger size below this.

Secondaries brownish yellow; the marginal spots as on primaries and in addition a second, or submarginal row of similar spots; besides the spots of upper side, which are repeated, is an oval on abdominal margin and a long oval on costa; all these spots except the outer rows of a yellowish tint.

From Kodiak. Taken by M. Bischoff.

HETEROPTERUS ARENE, n. sp.

Male.—Expands .9 inch. Upper side glossy honey yellow; hind and inner margins of primaries largely bordered by fuscous; costa edged by same color; the outer extremity of cell bordered by two

short fuscous lines one of which covers the arc; secondaries have a broad fuscous costal border, and a narrow edge of same color along hind margin; fringe concolored.

Under side of primaries a lighter shade, fuscous on inner margin. Secondaries still paler, immaculate.

From Arizona. Taken by Dr. Palmer, and in the collection of the Agricultural Department.

HETEROPTERUS PROCRI, n. sp.

Male.—Expands .9 inch. Upper side bright, glossy honey yellow; costal border of secondaries fuscous near base; on disk of primaries below cell, a straight black streak on a ridge raised above the surface; fringes fuscous at apex of primaries, otherwise yellowish.

Under side of primaries nearly same shade as above, of secondaries paler; at base of primaries a black patch not reaching costal edge, extending half way along inner margin and projecting a short streak towards the disk.

Body above concolored, beneath whitish; palpi yellow white; antennæ fuscous above, yellow below, club yellow.

Female.—Same size. Upper side a shade darker than male; the nervules more or less fuscous, and secondaries much obscured by fuscous at base; a black line along lower side of cell of primaries corresponding to the stigma of the male; both wings edged by a fuscous line.

On under side of secondaries the yellow color only obtains next abdominal margin; rest of wing yellow brown, with a pale, whitish, streak running from base to middle of hind margin.

From several specimens sent me by Mr. G. W. Belfrage, and taken near Waco, Texas.

HESPERIA TAMENUND, n. sp.

Male.—Expands 1.6 inch. Upper side dark brown with a purple tint, disk of primaries crossed by a broad brown band, commencing on costa a little beyond the middle from base, running back obliquely half way to hind margin, then bending at a right angle and reaching middle of inner margin: primaries also have a submarginal indistinct macular band, a shade paler than the ground color. Secondaries blackish crossed near base and on disk by two rows of indistinct black spots; fringes black.

Under side brown, tinted with purple, immaculate: apex of primaries greyish.

Body, legs and palpi concolored; antennæ and club blackish.

Female.—Expands 1.8 inch. Similar to male.

Taken near Waco, Texas, by Mr. G. W. Belfrage.

HESPERIA OPHIS, n. sp.

Primaries long, pointed, narrow, excavated on costal margin.

Male.—Expands 1.3 inch. Upper side brown with a bronze lustre; primaries have three yellowish points on disk in the median interspaces forming a line nearly parallel to costal edge, and a fourth spot between the uppermost of these and costa; stigma small, oval and parallel to costa; fringes pale brown.

Under side nearly same color, much powdered with bronze atoms on costal margin of primaries and at base and along the nervules of secondaries; the points on primaries expanded into small spots, a fifth being found on the cell; on disk of secondaries a white stripe following discoidal nervule, and characteristic of this species.

Female.—Same size, color and markings.

From Apalachicola, Fla. Taken by Dr. A. W. Chapman.

NOTE.—While the foregoing descriptions were passing through the press, I received the following letter from Mr. A. G. Butler. “*Thecla Castalis* is *Papilio Damon*, Cramer, iv, pl. 390. The figures are antiquated, but fig. C. exhibits the golden yellow of upper side and the markings of the under side in fig. D. occupy the same positions. An example in the British Museum is labelled “United States,” but on turning to our Register, for 1846, I find a note by E. Doubleday as follows.—‘This is an entire series of the species collected by me in the U. S., during the years 1837 and 1838 *with a few additions from other sources &c.*’” Cramer gives Virginia as a locality of *Damon* but this is undoubtedly erroneous.

“*Euptychia rubricata* is quite new. It is allied to *E. Phares*, Godart, but differs above in red patch of primaries (indicated by an ochreous suffusion in *Phares*) and in single ocellus of secondaries (*Phares* always exhibits from 4 to 6 ocelli above); below in the red on primaries and the bands of secondaries, which are wider apart than in *Phares*, and in the far more conspicuously silver pupilled ocelli. I have never seen *Phares* from Mexico.”